



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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**North Carolina Board of Transportation  
Environmental Planning and Policy Committee  
Meeting Minutes for October 31, 2007**

A meeting of the Environmental Planning and Policy Committee (EPPC) was held October 31, 2007 at 8:30 AM in the Board Room (Room 150) of the Transportation Building. Board Member Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Tom Betts  
Mac Campbell  
Bob Collier

Marion Cowell  
Doug Galyon  
Andrew Lakey

Andrew Perkins

Chairperson Nina Szlosberg called the meeting to order at approximately 8:30 AM. She opened by accepting a motion to approve the meeting minutes from the September 5, 2007 committee meeting. The minutes were approved as presented.

Chairperson Szlosberg began by stating that for a number of months we have been talking about the negotiations between our department and the NC Department of Environment and Natural Resources (DENR), our partners, on the Jordan Lake Nutrient Strategy Rules. Dr. Greg Thorpe has been providing the EPPC with updates. She also acknowledged Alan Clark from the DENR's Division of Water Quality (DWQ).

Dr. Thorpe provided an update on the Jordan Lake Nutrient Strategy Rules. In the package of rules, there are several rules that address areas of nutrient management or nutrient reduction, and there are a number of these rules where we (DOT and DENR-DWQ staff) are in general agreement. DOT has made some comments in the past, but DOT and DWQ are in general agreement. The focus of the discussion between the two agencies over the recent months is Rule 0271, which deals with the Stormwater Management Requirements for new and existing facilities, both roadway and non-roadway facilities. As the rules were proposed they required an accounting methodology, which has yet to be determined. Part of the disagreement, which was part of DOT's original comment letter sent to DENR in September, is our objection to the specific type of accounting activities. DOT was not originally included in the accounting for the Total Maximum Daily Loading (TMDL) on which all of the nutrient targets are based. It is requiring DOT to do a lot of accounting for specific activities, but that accounting is going to be related back to generalized baseline numbers. The focus of the recent discussions was on Rule 0271 and trying to bring DOT and DWQ closer together on how these Stormwater Management Requirements ought to be implemented. It has been DOT's contention that they should be reasonable and proportionate to the DOT's load contribution to the reservoir, which as mentioned in the past is very low. There are different ways that we can do

this accounting; those numbers vary somewhat, but the fact is that DOT's contribution to the overall problem is very small.

Chairperson Szlosberg commented that from her recollection, DOT's estimate of about one-percent (1%) did not sync up with what DENR thought our contribution was. She asked, "Is that still a point of contention, or do we agree that we have a one-percent contribution?"

Dr. Thorpe responded, no. We don't agree that it is one percent (1%), but I do think we are in general agreement that it is relatively low.

Chairperson Szlosberg asked Mr. Clark, "What is DENR's position on that?"

Mr. Clark responded that DWQ would probably come up with a different number than DOT, but we are trying to come up with an agreement on a certain number of pounds of hydrogen reduction per year, or a certain number of BMPs per year. It is just a flat out number and not worry so much on what the actual contributions are. He stated that he is comfortable with that approach.

Board of Transportation Chairman Doug Galyon asked, "Are the reports proportionate to what we are expected to pay?"

Mr. Clark said, "Yes, I think we are working on a solution where there is a reasonable amount of reduction per year that is within our cost parameters, and is suitable to DOT."

Board Member Tom Betts asked, "If we agree that we are not much of the problem, then we can't improve much because we are not much of the problem."

Mr. Clark responded, "We are seeking to achieve some of the reduction from all sources. We are cognizant of the fact that DOT's contributions are relatively low compared to other sources. We have heard recommendations from DOT staff to come up with certain Best Management Practices (BMP) retrofits per year. We are not trying to come up with a percentage reduction for a number that's not well established. We are willing to come up with a set number of reductions per year."

Dr. Thorpe stated that in one of DOT's earlier proposals, we had proposed to do some additional studies that would be specific to DOT facilities -- highways in particular. DWQ was still uncomfortable with that, because it would have put us some years out before we were actually implementing that part of the rule. So, DOT staff has agreed to disagree with DWQ on this particular point and instead come up with solutions that would bring us close together. We have been fairly successful in doing that; however, there is still an accounting issue that remains unresolved.

Chairperson Szlosberg stated that the reason this is a little bit of a red flag for her is because the language of the rule is "proportionate and reasonable."

Dr. Thorpe said that there is language from the statute that has charged DWQ with developing this portion.

Chairperson Szlosberg responded that if proportionality is an issue that has not been resolved, it is going to be difficult to figure out the ratio and work through the issue.

Dr. Thorpe stated that he believes DOT and DWQ are in general agreement and that those numbers might vary as much as two or three percent. DWQ thinks the numbers might vary a little more than that. It depends in large part on how the accounting is done.

Dr. Thorpe continued with his presentation. He stated that in September 2007, he gave an update to the EPPC and provided a comment letter to DWQ on the proposed rules that both Chairman Galyon and Secretary Tippet signed. DOT and DWQ staff met on September 19<sup>th</sup> and October 16<sup>th</sup> to discuss these issues and various versions of the rules. There have been numerous e-mail and phone communications, as well. The latest focus of those discussions has been around 'Version B' of the rules – a version that DOT proposed to DWQ on October 12<sup>th</sup> and was the subsequent topic of conversation at a joint October 16<sup>th</sup> meeting. Based on those conversations, DWQ put the latest version together, which is under discussion. Dr. Thorpe then gave a comparison between these two versions DOT's 'Version B' and DWQ's latest version (sent to DOT on October 25<sup>th</sup>).

Both versions require identification of where DOT has stormwater outfalls, their location and elimination of illicit discharge.

The primary area of disagreement gets down to accounting. For new industrial facilities, DOT proposes to control and treat the runoff from the first inch of rainfall and then use DOT's Best Management Practices Toolbox. This toolbox specifies the type and design of particular Best Management Practices, such as grass swales or bio-retention areas (areas that are excavated out and then designed and structured to manage stormwater runoff and not allow it to percolate in certain areas). DOT would put those BMPs in as we could, based on the DOT BMP Toolbox. The DWQ version would require us to go out and do an accounting of the nutrient loads; DOT assumes this would be on a facility-by-facility or project-by-project basis. We would not know what to do to address those loads until the accounting was done; then, DOT would have to look and either use a single BMP or a series of BMPs that would get us the load reductions necessary based on an accounting. We would probably have to put in multiple stormwater BMPs in order to achieve the accounting based load reductions. The DWQ version specifies using DWQ's BMP manual. We do have some differences with that.

Chairperson Szlosberg observed that DWQ's version sounds as if DWQ would like for DOT to do this in a sort of customized manner. Each and every new industrial facility or rest area, we would go in and do that measurement and then we would develop, using DOT's BMP manual, Best Management Practices to deal with the reality on the ground, in that particular place. In DOT's version, it sounds like DOT is suggesting that we treat the first one-inch of rainfall as a treatment option.

Dr. Thorpe stated that most of the bad stuff that is going to come off in the first flush (the first bit of runoff that is occurring) and DOT will have stormwater programs to treat that first inch of runoff; DOT staff believes this is an acceptable way to address that issue. DOT is proposing that instead of going out and doing all of this accounting, since we believe we are a very small part of the problem to begin with (we are low nutrient contributors), DOT is proposing that we do this generalized Best

Management Practice approach and essentially consider that we have addressed the issue from our low nutrient output.

Chairperson Szlosberg asked why is that not acceptable for DWQ.

Board Member Andrew Perkins suggested that DOT's proposal does not manage the cumulative impacts coming onto DOT's stormwater system (which accepts runoff from much of the development allowed by local government). In essence, they want us to assume full responsibility of the cumulative impacts of others and we don't want to do that. Mr. Perkins reminded the committee that the numbers in the presentation show that we are less than two percent of the problem and that municipalities are about fifty-six percent of the problem.

Dr. Thorpe stated that DWQ has a lot of experience with the Neuse and Tar-Pamlico basins. DOT proposes to do the best job we can in providing and delivering stormwater to the buffer so the buffer can do what it is going to do to reduce pollutants and mitigate flow impacts. We would implement BMPs to the maximum extent practical when advances through the buffer are unavoidable. That is essentially what we did the Neuse and Tar-Pamlico basins, and don't want the flow through the buffer in a concentrated fashion. BMPs help stormwater flow through the buffer at non-diverse velocities. Where this can be done, DOT is putting in the devices to put a direction on the stormwater outfall. We may deliver that to a pre-form scour hold device that we use frequently to have that stormwater drop into that device. It reduces the energy of the stormwater coming into the outfall, avoiding corrosive velocities, but not getting the same treatment it might otherwise get. We have been able to work these out with DWQ through the 401 permitting process. We would be using the DOT BMP Toolbox, which we were required to develop through our NPDS Stormwater permit. In DWQ's version, we would have to go to the new industrial facilities and rest areas to do the accounting. One of our earlier proposals was to take the time, maybe a couple of years after the implementation of the rules, to do additional monitoring and additional modeling to determine what our loading actually was. Our objection to doing the accounting at this point is that we would be doing it on a project-by-project, or facility-by-facility, basis, which is really an after-the-fact accounting. We would be doing this specific accounting on a project and then comparing those loads to a generalized baseline loads, which we think do not accurately reflect what our contributions really are.

For existing non-roadway development, in order to address the runoff from existing industrial facilities and rest areas (and there are only a few of them throughout the Jordan Lake watershed at this point), we would implement retrofits at each of these facilities by going out and looking at what is practical and feasible. For existing roadway development, we did agree to do 15 stormwater retrofit BMPs throughout the Jordan Lake watershed over a five-year period (on average 3 per year). We would propose using the DOT's BMPs toolbox in order to develop those retrofit BMPs. DWQ's October 25<sup>th</sup> version would require us to construct 15 wetlands over a five year re-occurring period and those wetlands would have to be designed to treat at least six acres of land or they would not count towards the retrofit credit. In most instances where we are providing drainage to a specific point, along our highway project, especially in areas that have more terrain to them, we generally don't have drainage coming from areas as large as six acres. We think starting our compliance with constructing wetlands in a tough place for us to start because it is difficult to find the appropriate, suitable areas. Having to do 15 of those over a five-year period, considering our

level of contribution, may be overkill, especially when you are talking about the six acres. Again, it would require the use of DWQ's BMP manual, instead of DOT's. There is language in the rules that would allow us to do things other than the constructive wetlands; we would have to string some BMPs together that would get us the same amount of nutrient reduction credit, that DWQ would anticipate us getting from these constructive wetlands. We have been told that DWQ is either going to or is in the process of revising their BMP manual, such that their grass swales would require five to one (5:1) slopes. For example, a two-foot ditch would have to have a 10-foot slope on either side for a total of swale of 22-feet wide. This creates a challenge for finding the area suitable for these constructive wetlands.

We believe our compliance actions are defined by the rule and not subject to variability based on accounting. We believe that the compliance actions are more reasonable and proportionate with our contribution. The stormwater BMPs are designed to the specifications approved by DWQ and developed for the transportation environment, as per DOT's BMP toolbox, we think those are called positive points. In DWQ's version, the compliance actions are not clearly specified. They are dependent upon the results of the undefined accounting methodology.

NCDOT's 5-year Compliance Cost for DOT's Version B of the rules is roughly \$3.5 million. That compares to the \$12 million estimate that DWQ originally made in their fiscal analysis. DOT estimates that the rules as originally proposed would cost DOT over \$100 million. DOT staff believes Version B represents a very substantial cost savings.

Dr. Thorpe stated that DOT and DWQ have had our last meeting and do not plan to continue a dialogue on this issue at the present time. The baseline that was established by DWQ through their TMDL did not include DOT. The estimates of nutrient runoff that are made are based on what are commonly referred to as runoff coefficients, are generalized runoff estimated values for a particular types of land cover and land use. DWQ bases its coefficients on estimated baseline concentrations that are on average event means. The data that are contributing to transportation often include commercial parking lots, which are not a part of DOT facilities. DOT staff don't think those data are specific enough for what is coming off our highway facilities today. DOT has done some data collection across the state.

DWQ staff are scheduled to meet with the Environment Management Commission Hearing Officers on November 7<sup>th</sup>, 2007, at which time they will present DWQ's October 25<sup>th</sup> version. DWQ is still working on some possible additional changes to the constructive requirements for retrofits. They are going to be continuing their discussions with their hearing officers through the end of November. They will be taking these rules back to the full Commission at their meeting in January to ask them to be adopted.

Dr. Thorpe turned the meeting over to Mr. Alan Clark of DWQ.

Mr. Clark stated that he thought we were much closer together than we are at the moment. He believes DOT and DWQ have made a lot of concessions to reach a common ground on these rules. One of the areas that DWQ took into consideration was DOT's argument for using projections on nitrogen reduction from atmospheric reductions, based on laws that will reduce nitrogen from

automobiles as one of the mean for addressing long-term nitrogen reductions. DWQ feels like this is a good idea and has incorporated into their proposed rule language.

Looking at reductions from existing developed areas, one of DOT's recommendations was to do 15 retrofits over a 5-year period to achieve a reduction of nitrogen from an existing development. The alternative would be to come up with a number of pounds per year of retrofits that could be achieved through any number of retrofit possibilities.

Mr. Clark added that he wanted to make clear that the 6 acres of wetland mentioned earlier was actually six acres of a constructive wetland or some equivalent, so there are other options.

Chairperson Szlosberg referenced some discussions that had taken place in some meetings precursor to the start-up of the Ecosystem Enhancement Program. One fact that rose to the top that we all agreed about was that the National Academy of Science reported that all of these constructed wetlands have really high failure rates. That kind of on-site like wetlands construction might not be the best approach to improve water quality, which was sort of the underlying premise of EEP. She asked Mr. Clark if that is his thinking about constructive wetlands? If so, then why would we want to do that as an approach to improve water quality?

Mr. Clark responded that he doesn't know that DWQ would agree with a statement that constructive wetlands necessarily have a high failure rate. DWQ feels like constructive wetlands are a valid tool. There may be others ones that may be more appropriate, or deemed more appropriate by DOT. DWQ is not restricting retrofits to wetlands; that was an example. The rules are going to be applied to a wide range of activities, such as Agriculture. Everyone is being regulated on this to provide a level playing field. We are trying to have these rules work as efficiently as possible for DOT and are willing to accept this retrofit option in lieu of a more complicated accounting method. On this particular point we are much closer, it is just a matter of the number of retrofits or types.

In our last discussions, there was an argument made that DOT be able to use their toolbox. DWQ feels that the use of DOT's Best Management Practices Toolbox is appropriate. DWQ's feeling was that the current toolbox has general stormwater tools in it, and they thought there was some that needed to be specified for nitrogen reduction. DWQ staff have talked about modifying DOT's toolbox to include those tools that would be specific to nitrogen reduction. It could then be referred to by DOT and its work in these rules. Therefore, there wouldn't be this confusion about DWQ's toolbox versus DOT's toolbox. We are in agreement on being able to refer to DOT's toolbox.

Chairperson Szlosberg asked if Alan had identified what those nitrogen reduction BMPs would be and provided that to DOT's staff? Mr. Clark responded that the two agencies have discussed some of the possible BMPs, but DWQ has not yet provided a list to NCDOT.

One other area that DWQ believes it has greatly modified its stance is the idea of using the buffer rules, similar to the Neuse and Tar-Pamlico, for creating stormwater reductions for new development projects. For that one, too, the agencies are very close, but there are still some suggestions by DWQ that have not been accepted by DOT and still need to be addressed. The number and type of retrofits is the other major point of disagreement. Both of these are solvable. DWQ anticipates discussing the DOT rules with the DWQ Hearing Officers on November 7<sup>th</sup>, but

DWQ is not planning on finalizing the rules until later in the month. DWQ would be happy to meet with DOT staff one more time to go over these last few things that we feel are solvable.

Chairperson Szlosberg inquired as to whether DWQ had a discussion about a scenario where DWQ would accept DOT's approach in treating the first one inch, in addition to some monitoring to see if it was achieving the goals that DWQ has for DOT? Then, if the one-inch treatment doesn't work, there would be some stipulation after 5 years of monitoring that we would revisit it.

Dr. Thorpe stated that DOT staff's preference would be to do a more generalized monitoring throughout the watershed to determine what our baseline is in the first place. Part of DOT's objection to having to do this accounting either with specific BMPs or specific projects, is that DOT doesn't think an accurate baseline has been developed. It would be DOT's preference to use the BMPs that have been proven to be successful in the Neuse and Tar-Pamlico. If we were not able to satisfy DWQ that we were meeting the requirements of the Neuse and Tar-Pamlico rules, then we would have to go to the Environmental Management Commission and ask for a major variance in order to do what we needed to do. We have not needed to ask for any of those variances with the Neuse and Tar-Pamlico river basins. If we were going to have monitoring requirements, we would prefer having monitoring requirements to go establish our baseline and then develop our program.

Chairperson Szlosberg asked Mr. Clark if is that a problem for DWQ, stating that she doesn't want to be a facilitator of the negotiations – just to fully understand where DWQ is on the idea.

Mr. Clark stated that he thinks DWQ is consistent with Dr. Thorpe's position on that. He added that within Jordan Lake there is a particular portion of the watershed that is problematic. The very upper portion that drains Chapel Hill and Durham has a relatively small portion of the basin. It has the lowest development and the least opportunity for retrofitting. In many areas, where entities are regulated by these rules, it is going to be difficult to achieve their reductions. The one that causes us the most concern if we go and put in a new road and the swales won't fit because there is too much development, it's difficult to know what do you do at that point to achieve some reduction. Because of the severity of the water quality problem around the lake, there are limited options; that is the biggest hurdle that we have for that one area. It may be that we can fine-tune something to that portion of the lake.

He continued that DWQ really does want to come to some final terms on this in a manner that is agreeable to both sides. He stated that the retrofitting portion is a major concern and establishing what is to be done in situations where swales and BMPs don't work. Mr. Clark stated this is the other area for concern. He continued that the two agencies were in agreement with providing some time, after the rules go into effect, to look at what the baseline loading is from different facilities. Provided we have the time to do that, we will make the adjustments we need to move forward.

Dr. Thorpe stated DOT staff would certainly be willing to meet again as well. At the last meeting between the two agencies, it was mentioned that it would have to be our last meeting.

Dr. Thorpe agreed with Mr. Clark in that when they left the October 16<sup>th</sup> meeting, both agencies felt like they were very close. There was a lot of discussion about taking a programmatic approach, using BMPs, and implementing this through DOT's NPDES permit. Some of these things are

reflected in the rules, and some are not. The rules that were proposed by DWQ (the latest version) were documented on October 25<sup>th</sup>. We were in agreement about doing retrofits, the number and the rate of putting those in, although there was question from DWQ about how effective some of the retrofits would be. DOT has been doing retrofits for a number of years, putting a substantial number of retrofits in, in other parts of the state, under the requirements of our NPDES permit, and those retrofits had to be approved by DWQ by the people who implement the stormwater requirements. Dr. Thorpe stated that he was not aware that DWQ has had any issues with them. We think we could do good retrofits without having to go to constructive wetlands that would require us to have to design those to capture drainage for the six acres of runoff. The information Dr. Thorpe has received talking about the effectiveness of constructive wetlands, a lot of those that failed were old constructive wetlands, using old design standards, and they were simply low areas in the ground. The design these days is considerably more sophisticated than that. DOT's issue with constructive wetlands is that designing something of that nature to capture six acres of drainage is overkill. And when you put these more sophisticated design standards to it, you are talking about more land and more cost, and more maintenance requirements. We think there are still more cost-effective ways to do all of this.

As Mr. Clark mentioned, we did talk about revising the DOT BMP manual. We agreed to revise it to put some more specific nutrient management BMPs in there. Again, that is not something that is reflected in the rules. There are opportunities presented in the rules by DWQ to use alternative BMPs, but it is at the end. The alternatives would be after we have gone through and done this accounting, made a determination that you can't do these other more sophisticated, more costly things, then you "may be able to use other combinations." The language doesn't say you "can", it says "may".

Dr. Thorpe noted that when Mr. Clark was talking about the accounting methodology, he used the word accountability. DOT is not making a case that DOT doesn't want to be accountable; DOT is perfectly willing to do what is proportionate to our part of the problem. We are all willing to be accountable; it is just how we go about it.

Board Member Marion Cowell then asked if the issue is still that there exists a desire for us to do more than the harm that we do?

Dr. Thorpe stated that he believes that some of the requirements that remain in the rules are disproportionate to our contribution.

Board Member Marion Cowell asked what DOT can do about that?

Dr. Thorpe said that we will have to sit down with DWQ again, as Mr. Clark mentioned, and see if we can't iron some of these differences out and get a little closer. DOT still contends that it is appropriate for us to take a more programmatic approach and not have to do the facility specific or project specific accounting.

Board Member Marion Cowell stated that he believes DOT should be accountable for their portion and correct anything that we are responsible for. But, if there are other communities around, they ought to be doing their correcting.



Mr. Clark stated that he feels DWQ is trying to come up with a solution that is not disproportionate to DOT. It comes down to how you calculate how much reduction in order to achieve that fairness. He stated that he thinks DOT staff is seeking some set description of activities that automatically meet their proportion reduction share and that the two agencies have been working on trying to fine tune and calculate what that is. He believes it may ultimately be the same solution, but DWQ is seeking a higher level of confidence. DWQ is getting closer and closer to accepting some set number -- a specified action that can kind of achieve what we want without having to do a lot the studies and calculations. I think we are all coming to that conclusion. It has just been a matter of reaching a comparable amount. We are very cognizant of not trying to require something over and above what is proportionate to DOT's share.

Board Member Tom Betts asked Nina Szlosberg what her assessment of this situation is and how she thinks it ought to come out?

Chairperson Szlosberg responded that it sounds that there are still a couple of wedge points between the two agencies but is real encouraged to hear that we are closer.

Board Member Tom Betts asked what would be considered reasonable.

Chairperson Szlosberg stated that she thinks there is an agreement that is reasonable that it is reasonable to have actions that are proportionate to our contribution. The real question is, how do we go about achieving meeting those targets? There are different approaches.

She continued that she would have to refer to staff in both agencies regarding the issue of reasonableness. She stated that she believes it is important that we do everything we possibly can to improve water quality. It is all in the news, we are in a drought and our water supply is in danger. She believes think there is a cautionary tale here, because we are in discussions about building a new reservoir in the Littler River in the Zebulon area. She stated that she wished the transcripts of all of staff's discussions on these issues could be sent over to the approving agencies that are on that project. We should not do this again. We should not put ourselves in the situation where the water quality is degraded because of some of the practices of us and of the developing community, and of the municipality, and all the contributors. Ms. Szlosberg stated that she hopes this is the last time we have to go in to talk about retrofits to improve water quality.

Chairperson Szlosberg asked if anyone had anything else to add. She summarized that DWQ and DOT had agreed to have one more meeting, before DWQ send the revised language to the DWQ Hearing Officers. She also requested that DWQ and DOT report back to the EPPC after the meeting with the Hearing Officers.

Chairperson Szlosberg adjourned the meeting.

The next meeting for the Environmental Planning and Policy Committee is scheduled for Wednesday, January 9, 2008 at 8:30 AM in the Board of Transportation Room (Room 150) of the Transportation Building.

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